

Application No.: 10/615,622  
Amendment Dated August 7, 2007  
Reply to Office Action of June 7, 2007

MICR-151US

**Remarks/Arguments:**

Claims 1, 13 and 21 have been amended. No new matter is introduced herein. Claims 1-29 are pending.

Claims 1 and 21 have been amended to recite that the focus adjustment structure is deformed by heating. Basis for the amendment can be found, for example, at page 5, line 18 - page 7, line 10; and Figs. 2, 3A and 3B. Claim 13 has been amended to recite that the focus adjuster permanently deforms the focus adjustment structure by heating the focus adjustment structure such that the focus adjuster moves the lens to focus light. Basis for the amendment to claim 13 can be found, for example, at page 3, lines 18 - 24; page 5, line 18 - page 7, line 10; and Figs. 3A and 3B.

Claims 1 - 11 and 21 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kitazawa et al. (U.S. Pat. No. 6,067,421). Although page 3 of the Office Action recites that claims 1-11 are rejected, Applicants believe that claim 6 was inadvertently included in the §102(b) rejection, because claim 6 is discussed on page 8 of the Office Action as being allowable. Accordingly, Applicants address the rejection of claims 1 - 5, 7 - 11 and 21 under 35 U.S.C. § 102(b) as being anticipated by Kitazawa et al. It is respectfully submitted that this ground for rejection is overcome for the reasons set forth below.

Claim 1 has been amended so that it recites, in part:

"permanently deforming the focus adjustment structure by heating the focus adjustment structure to move the lens to focus light onto the image sensor."

Kitazawa et al. disclose, in Figs. 14 and 15, a focus adjusting device having an increase device 10 to move lens frame 12 for focusing. Increase device 10 includes a laminate piezoelectric device 1 disposed such that the deformation of laminate piezoelectric device 1 is perpendicular to an optical axis of a lens (Col. 9, lines 6 - 14). A voltage applied to increase device 10 causes lens frame 12 to move in a direction for focusing (Col. 9, lines 30 - 37). Kitazawa et al. do not disclose or suggest permanently deforming the focus adjustment structure by heating the focus adjustment structure to move the lens to focus light onto the image sensor, as recited in claim 1. Kitazawa et al., instead, teach applying a voltage to a piezoelectric device to expand piezoelectric device 1 and move lens frame 12 for focusing. Kitazawa et al. is silent on permanently deforming a focus adjustment structure by heating the focus adjustment structure in order to focus light onto an image sensor. Indeed, if a voltage is not applied to the increase device 10 of Kitazawa et al., piezoelectric device 1 will contract,

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causing elastic member 10a to increase in width (Figs. 15-17 and Col. 9, lines 32-40). Thus, Kitazawa et al. do not include all of the features of claims 1.

Because Kitazawa et al. do not disclose or suggest all of the limitations of claim 1, claim 1 is not subject to rejection under 35 U.S.C. §102(b) as being anticipated by Kitazawa et al. and claims 2 - 5 and 7 - 11, which depend from claim 1, are not subject to rejection under 35 U.S.C. § 102(b) at being anticipated by Kitazawa et al.

With respect to claim 21, claim 21 has been amended to recite, in part:

"a focus adjustment structure disposed between the lens holder and the sensor housing, wherein the focus adjustment structure is deformed by heating the focus adjustment structure until light passing through the lens is focused onto the image sensor."

Kitazawa et al. do not disclose or suggest a focus adjustment structure that is deformed by heating the focus adjustment structure until light passing through the lens is focused onto the image sensor, as recited in claim 21. As discussed above, Kitazawa et al. apply a voltage to a piezoelectric device to move a lens frame for focusing. Kitazawa et al. are silent regarding a focus adjustment structure that is deformed by heating until light is focused onto the image sensor. Thus, Kitazawa et al. do not include all of the features of claim 21. Because Kitazawa et al. do not disclose or suggest all of the limitations of claim 21, claim 21 is not subject to rejection under 35 U.S.C. § 102(b) as being anticipated by Kitazawa et al.

Claims 13 - 17 and 19 - 20 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ohta (U.S. Patent No. 5,895,129). It is respectfully submitted that this ground for rejection is overcome for the reasons set forth below.

Claims 13 has been amended so that it recites, in part:

"a focus adjuster operable to permanently deform the focus adjustment structure by heating the focus adjustment structure such that the focus adjuster moves the lens to focus light onto the image sensor."

Ohta discloses, in Fig. 1, an optical system 1 including variator 102 and RR 104 lens groups, held by respective holding members 102A and 104A that are fabricated by a plastic (Col. 3, line 43-Col. 4, line 6). Ohta further discloses that, due to a change in temperature, the holding members may expand and contract, causing the lens groups to de-focus (Col. 7, lines 25-42). Control circuit 13 receives a signal from temperature sensor 12 and drives variator 102 and RR 104 using a corrected position in order to correct for the de-focusing caused by the holding members 102A and 104A due to the temperature change (Col. 7, lines 1-10; Col. 8, line 11-Col. 9, line 24; Col. 9, lines 36-39; and Fig. 6).

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Ohta does not disclose or suggest a focus adjuster operable to permanently deform the focus adjustment structure by heating the focus adjustment structure to move the lens, as recited in claim 13. As discussed above, Ohta does not deform the focus adjustment structure. Instead, control circuit 13 of Ohta corrects for de-focusing caused by the holding members due to a temperature change (Col. 7, lines 1- 10 and 25-40). Ohta is silent regarding a focus adjuster that deforms a focus adjustment structure to move the lens. Thus, Ohta does not include all of the features of claim 13.

With respect to claims 14-17, 19 and 20, the Examiner asserts, on p. 6-7 of the Office Action, that Ohta discloses applying energy to a shrinkable material because "it is inherent the heat generated by the motor applies energy to the material" and that Ohta discloses heating a heat shrink material "because the motor gives off heat when operating". Applicants respectfully traverse this ground for rejection. Applicants respectfully traverse this ground for rejection. Applicants note that "it is never appropriate to rely solely on 'common knowledge' in the art without evidentiary support in the record, as the principle evidence upon which a rejection is based" (see MPEP §2144.03). Applicants respectfully request that the Examiner show specific support in Ohta for a motor that generates heat and applies energy to the holding members. Ohta is silent on a focus adjuster for applying energy to a shrinkable material to permanently deform a focus adjustment structure. As discussed above, Ohta teaches correcting for de-focusing caused by the holding members due to a temperature change and is silent regarding permanently deforming a focus adjustment structure. Thus, Ohta can not disclose applying energy to a shrinkable material to permanently deform the focus adjustment structure by heating. Thus, Ohta does not include all the features of claims 14-17, 19 and 20.

For the reasons set forth above, claims 13 - 17, 19 and 20 are not subject to rejection under 35 U.S.C. § 102(b) as being anticipated by Ohta.

Applicants acknowledge with appreciation the Examiner's finding at claims 6, 12, 18 and 22 - 29 include allowable subject matter and would be allowable if re-written in independent form including all of the limitations of the respective base claims. Applicants have not amended claims 6, 12, 18 and 22 - 29 into independent form because it is submitted that the respective base claims are allowable for at least the reasons set forth above.

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In view of the foregoing amendments and remarks, Applicants request that the Examiner reconsider and withdraw the rejection of claims 1 - 5, 7 - 11, 13 - 17 and 19 - 21 and the objection to claims 6, 12, 18 and 22 - 29.

Respectfully submitted,  
RatnerPrestia

  
Kenneth N. Nigon, Reg. No. 31,549  
Attorney for Applicants


KNN/DMG/alb/mc

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P.O. Box 980  
Valley Forge, PA 19482  
(610) 407-0700

The Assistant Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. 18-0350 of any fees associated with this communication.

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, (Fax No. (571) 273-8300) on the date shown below.

  
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